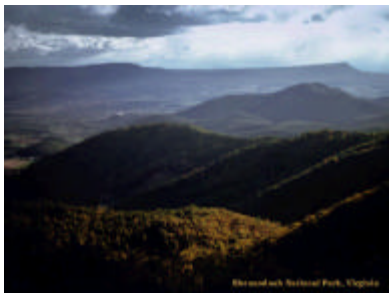
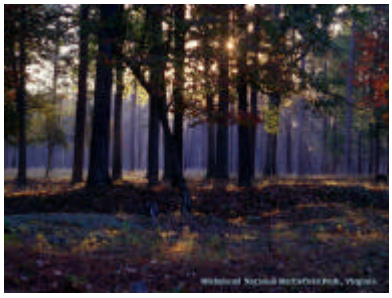
NATIONAL RESOURCE CHALLENGE
ANNUAL REPORT, 2002


Photos courtesy of copernicus.com

Table of Contents

Photos courtesy of copernicus.com


Northeast Region
National Park Service
U.S. Department of the Interior
New England Cluster
Allegheny Cluster
Chesapeake Cluster

Inventory and Monitoring Program

Northeast Region Inventory and Monitoring (I&M) Program
By Sara Stevens and Beth Johnson, I&M Program

In 1999, the Natural Resource Challenge was announced as the "National Park Service's Action Plan for Preserving Natural Resources". This action plan represents a strong commitment to preserving natural resources in the parks and requiring that active and informed management be based on sound science. The plan addresses the need to expand existing inventory programs and develop efficient ways to monitor the vital signs of natural systems through the Service's Inventory and Monitoring Program.

The Service is implementing the Inventory and Monitoring program at 270 parks organized into 32 networks. Four I&M Networks were established in the Northeast Region, the Northeast Coastal and Barrier Network (8 parks), Mid-Atlantic Network (11 parks), Eastern Rivers and Mountains Network (9 parks) and the Northeast Temperate Network (10 parks). These Networks were established based on the biogeographical similarities of their parks.

The Regional I & M staff currently consists of a Regional Inventory and Monitoring Coordinator, Elizabeth Johnson, a Coastal and Barrier Network Monitoring Coordinator, Bryan Milstead, and Coastal and Barrier Network Data Manager, Sara Stevens. All stationed at the University of Rhode Island (URI). On detail to the Coastal and Barrier Network are two ASIS employees, Mark Duffy and Chris Lea. Mark is handling the shoreline change component of the Network's monitoring program and Chris Lea is coordinating the vegetation mapping effort. Through cooperative agreements with URI and Penn State University, research associates, Scott Tiffney, Allison Hamel-LeBlanc, Linda Fabre and Erica Nicholson are working on a number of I&M related projects for the Networks. The recently hired Northeast Temperate Network Coordinator, Greg Shriver, will be stationed at Marsh-Billings-Rockefeller National Historical Park in November 2002. All four Networks will eventually have a Network Coordinator and Data Manager.

One of many all-encompassing efforts the staff is charged with, is synthesizing existing park data on vertebrates and vascular plants. These data are being entered into online databases, NPSpecies, Naturebib and the Dataset Catalog. Based on information gaps, vertebrate and vascular plant inventories are being implemented where needed. The staff is also designing a comprehensive long-term monitoring program for the Coastal and Barrier Network parks. Each of the Networks has been scheduled to receive funding to implement a Network-wide "Vital Signs" monitoring program, the Coastal and Barrier Network was the first to receive this funding in the Northeast in 2001, with the Northeast Temperate, Eastern Rivers and Mountains and Mid-Atlantic Networks to follow respectively.

In this issue of the Northeast Region I&M Newsletter, the focus will be on the Coastal and Barrier Network, the other three Networks will be highlighted in upcoming issues. This newsletter will provide frequent updates on our activities. Additional

Inventory and Monitoring Program

information is available in our annual reports and work plans.

Northeast Coastal and Barrier Network Update

Network Coordinator Hired

Bryan Milstead marking small mammals during field study. Photo: B. Milstead, NPS

In May 2002, Bryan Milstead was hired as the Coastal and Barrier Network Coordinator. Bryan is an ecologist who comes to the Northeast Region from Organ Pipe Cactus National Monument. He holds a Ph.D. from Northern Illinois University. For his Doctoral research, he studied small mammal population ecology and genetics in Chile. At Organ Pipe, Bryan was in charge of a diverse Inventory and Monitoring program and developed protocols for assessing environmental impacts of drug trafficking, border crossing and law enforcement. He is stationed at the University of Rhode Island.

Network Data Manager Hired

In January 2001, Sara Stevens was hired as the Coastal and Barrier Network Data Manager. Sara holds an MS degree in wildlife ecology from the University of Rhode Island. For her graduate work she studied the effects of forest fragmentation on mammals in the Atlantic Rainforest of Sergipe, Brazil. Sara has a broad ecological background, working with amphibians and birds as well. Over the past two years, Sara has been working with the Regional I&M coordinator, Beth Johnson, to plan and implement biological inventories in the four regional I&M Networks. She is stationed at the University of Rhode Island.

Northeast Coastal and Barrier Network Biological Inventories

In 2001, a scoping workshop for biological inventories was held at Richmond National Battlefield Park. The workshop included parks from the Coastal and Barrier Network parks (COLO, GEWA and THST) and the Mid-Atlantic Network (six VA parks). Local vertebrate and vascular plant experts were invited to attend and help these parks identify and prioritize inventory needs. As a result, cooperative agreements have been established with Frostburg University, Dr. Ron Barry, the University of Richmond, Dr. Joe Mitchell and the College of William and Mary Center for Conservation Biology, Dr. Dana Bradshaw, to conduct mammal, amphibian and reptile, and bird inventories in three Coastal and Barrier Network parks, COLO, GEWA and THST. These projects will be completed by 2004.
Other I&M inventories being conducted in the Network's parks, include herpetological inventories at FIIS, GATE and SAHI, conducted in cooperation with the Wildlife Conservation Society (WCS). In spite of the very dry field season in 2002, the WCS crew has collected some remarkable information, including an Eastern Box Turtle that had

Inventory and Monitoring Program

been marked in 1921. Records show that this individual was at least 20 years old at first capture, making it now, over 100 years old. Many species have been added to park lists as a result of these inventories as well as important distribution and abundance information.

Mating box turtles at Appomattox Courthouse NHP. Photo: Dr. Joseph Mitchell

Northeast Coastal and Barrier Network "Vital Signs" Monitoring

In 2001, the Network received funding to begin planning a Network-wide "Vital Signs" Monitoring Program. Through a lengthy process of workshops, meetings and a thorough review of park issues, a number of components have been identified as important and necessary for the inclusion in a long-term monitoring program in the coastal parks. These include, salt marsh health, estuarine nutrient enrichment, shoreline change, visitor impacts and contaminants. With the assistance of the Network's Technical Steering Committee, an elite group of scientists and park staff tasked with assisting and advising the Network with the planning and implementation of a long-term monitoring program, cooperators were identified for each of these monitoring components and phase one planning begun.

The phase I planning involves an intensive data mining exercise to identify existing data and monitoring programs. This includes park visits, interviews with park staff, and extensive literature and web searches. Also included in the phase I planning, cooperators must develop conceptual models depicting the agents of change, stressors and ecosystem responses, relevant to the monitoring component they are developing. At this time the Network is cooperating with USGS and URI scientists, to conduct phase I planning for estuarine nutrient enrichment, and salt marsh health. Scientists from Rutgers University, are conducting phase I for contaminants, Sterling College and North Carolina State University for visitor impacts. The Network's shoreline change program is headed by Mark Duffy. In cooperation with USGS, NASA and URI, he is developing protocols that combine two traditional shoreline mapping techniques designed by the late Dr. James Allen (USGS), with cutting edge remote sensing technology (airborne LIDAR).

Network Web Pages

Many more activities are being conducted as part of the regional I&M program than what can be included in this newsletter. Web pages for the four Networks will be developed and posted to the web at:

Inventory and Monitoring Program

www.nature.nps.gov/im/units/index.htm. The Coastal and Barrier Network web page, developed by Chuck Rafkind from COLO, is complete. These web pages will provide an overview of the I & M Program including its short and long-term goals and staff contacts.

Contact Person:

Beth Johnson
Coastal Resource Center
University of Rhode Island
1 Greenhouse Road
Kingston, RI 02881
Beth_johnson@nps.gov

Integrated Pest Management (IPM) Program

IPM – a comprehensive approach

Integrated pest management (IPM) is a resource management approach that seeks to maximize the use of natural controls on vertebrate, arthropod and vegetative pests while minimizing the use of short-term chemical treatments. In practice, IPM incorporates monitoring, the potential for environmental damage and selected treatment strategies into an overall decision making process that can be tailored to a particular pest problem at a particular park site.

Purple loosestrife (*Lythrum salicaria*)
Photo: NPS staff

IPM practices are employed to control a variety of pests in the Northeast Region. These pests include arthropods (like ants, ticks, lice and mosquitoes), vertebrates (such as groundhogs, geese and snakes) as well as invasive plants like purple loosestrife (*Lythrum salicornia* above) and common reed *Phragmites australis*. Besides their considerable ecological impact, target pest species are vectors for Lyme disease, West Nile virus, Rocky Mountain spotted fever and hantavirus.

Integrated Pest Management involves a variety of options chosen for their effectiveness, minimal impact to native ecological community and safety for Park visitors and staff. Each Park Unit has its own IPM Coordinator who represents the Superintendent on pesticide use and all other pest management issues.

Invasive/Exotic Plant species

A current IPM issue in the Northeast Region is the expansion of invasive or exotic plants. These are plants that rapidly move into native plant communities displacing resident species and altering ecological systems. The cumulative effects of invasive plant incursions include the significant decline of native plant populations as well as the decline of associated native pollinator animals. As an aggressive IPM program is the most effective method for combating the expansion of invasive plant, Congress recently appropriated funds to develop a nation-wide approach. The Northeast Region is receiving targeted IPM funds in FY 2003. These monies will be used to establish two 5-person teams to help Park Units define IPM issues, identify needs and help strategize solutions. These teams will provide services ranging from creating plant inventories to prioritizing impacted sites and

Integrated Pest Management (IPM) Program

affected species. IPM teams will also help design programs for pest management, monitoring of treatment options, site restoration and environmental compliance.

Northeast Region IPM Coordinator:

Wayne Millington
National Park Service
209A Ferguson Bldg.
University Park, PA 16802
Wayne_Millington@nps.gov
Phone: 814-863-8352
Fax: 814-865-1649

IPM Exotic Plant Management Teams

By Wayne Millington

The Region's IPM program is instituting Exotic Plant Management Teams at two Park units. At Shenandoah National Park, the team will focus on exotic plant management programs in all Virginia along with nearby Park units. The Team at Delaware Water Gap National Recreational Area will work with in 10 – 12 parks in the New England Cluster. Both Teams will be available for short-term plant management projects outside of their field of operations. Each Team will be 4-6 person team composed of a Team Liaison, Field Crew Leader and 3-4 biological technicians. Their mission will be to devise management approaches to exotic plant invasions, including strategic plans, buying equipment and performing field mitigation projects. The initial budget submitted for approval for FY03 is for $300,000 a Team. The first planned step would be to hire the Team Liaison person for each Management Team.

Common reed (*Phragmites australis*)

Battling Invasives in Virginia

By James Åkerson, Forest Ecologist,
Shenandoah National Park,

The extent of the nonnative species invasion in this country is too big for any single landowner to handle alone. In the case of nonnative vegetation, it's not merely a task of "weeding the garden." It also requires the cooperation of neighbors and other agencies to ensure long-lasting results. Nonnative invasives know no boundaries. No sooner might one rid their property of a pest plant than the very species finds its way back by hopping aboard the wind, birds or mammals. The most invasive plants can also re-colonize by enduring seed banks in the soil, stored underground energy reserves, or tremendous stump sprouting potential. Gardeners understand the ongoing nature of weeding.

Integrated Pest Management (IPM) Program

Perseverance is required to battle invasives.

Cooperation, the First Step

Eight national parks in Virginia have banded together to tackle the job of prioritizing and controlling invasive vegetation. Beginning in FY 2000, with the help of seed money from the NPS Natural Resource Challenge, each park in the cooperative surveyed their alien plants and created strategic plans that prioritized the zones and species needing attention. Zone priorities were based on the need to preserve native biological richness, rare species' habitat, riparian areas, and cultural resources. Species were prioritized with a method developed by Hiebert and Stubbendieck (1993) that looks at the biological potential for site disturbance verses the potential to enact meaningful controls. As an example, species that are highly invasive but easily controlled have a high rank for early attention.

Kudzu vine smothers trees and forbs alike at a site co-managed by private foundation and federal interests in Virginia. Photo: Charles Rafkind, NPS

For many, the challenge of controlling invasives seemed overwhelming. Indeed, no unit can hope to rid their lands of 300 years of nonnative infestation. The planning process, however, helped clarify the picture for the Virginia parks by focusing on the opportunities for appropriate controls. There is great potential in strategically protecting specific areas and eradicating early infestations. That became the aim of the Virginia cooperative effort.

A traveling 4-person SWAT team was employed to tackle the targeted infestation areas at each park. Rarely did they work alone. In fact, parks enthusiastically participated in controls, clean up, and restoration activities. The eight-park cooperative treated over 1,600 acres by the end of FY 2001. Site monitoring ensured that quality control was integral. Treatments included cutting, mowing, or herbicide applications.

True Collaboration, Joining with Neighbors

One park found an ally to address a common problem. Colonial National Historical Park linked with neighboring Colonial Williamsburg Foundation (CFW) in a collaborative effort to tackle a three-acre patch of kudzu and tree of heaven that straddles both ownerships. They and the Virginia Cooperative worked together in planning and conducting on-the-ground controls. Each contributed time, funding, and in-kind resources. The tract is adjacent to the

Integrated Pest Management (IPM) Program

federal Colonial Parkway that links Jamestown Island, Colonial Williamsburg, and Yorktown Battlefield. The privately held CWF became interested because of negative public reaction to the kudzu patch, situated next to their world famous historic village. The park wanted to rehabilitate the tract that contains a small perennial stream, several springs, and a pond. The site's capacity for species richness is great. Yet without treatment, kudzu vine smothered herbs, shrubs and trees alike.

Initial treatment began in July 2001 using staff from both organizations. Kudzu in the tree canopy was severed. Herbicide was applied to the cut vines and ground-level plants. Larger trees of heaven were cut down and stump-sprayed while seedlings/saplings were foliar sprayed. Alien plants along the stream, springs, and pond were treated with herbicide that is approved (labeled) for use around waters. Subsequent monitoring, re-treatment, and site restoration by the VA Cooperative and CWF took place in 2001-02 and will continue until it is stable and restored.

The same site two weeks after treatment. Follow-up work is taking place to address aesthetics and restoration. Photo: Charles Rafkind, NPS

Hope and a Future

The cooperative has given all eight parks a shot in the arm to make substantive steps in controlling their priority invasives. They have targeted specific infestations of kudzu, Oriental bittersweet, and mile-a-minute vines, tree of heaven, princess tree, white poplar, privet, multiflora rose, Japanese knotweed, autumn olive, Johnsongrass, and Japanese stiltgrass, among others.

It is through the sharing of staff, expertise, and equipment that the parks have been able to move forward beyond the tyranny of normal work demands. They are prepared to embark on a cooperative serving the Mid-Atlantic Network[1]. With NPS-Natural Resource Challenge base funding beginning in FY 2003, they will work to expand their influence in natural resource protection. It's an act of gardening to hold the ground, nurture native species richness, and protect species habitat.

The NPS Organic Act directs parks to "*conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future*

[1] The Mid-Atlantic Network Exotic Pest Management Team will include APCO, BOWA, COLO, EISE, FRSP, GETT, GEWA, PETE, RICH, SHEN, and THST.

Integrated Pest Management (IPM) Program

generations." Shenandoah Superintendent, Douglas Morris, believes, "Invasive species are impairing the natural resources and historical scenery of our parks. The challenge is before us to protect them." Though that's a tall order, cooperation and collaboration with others is helping broaden their effectiveness.

Hiebert, Ronald D. and James Stubbendieck. 1993. *Handbook for ranking exotic plants for management and control*. United States Department of the Interior, National Park Service, Midwest Regional Office, Omaha, NE. Natural Resources Report NPS/NRMWRO/NRR-93/08. 31 pp.

Executive Order #13112. 1999. *Invasive Species*. The White House, Office of the Press Secretary, Washington, D.C. February 3, 1999.

U.S. Congress. 1916. *The National Park Service Organic Act*. 16 U.S.C. l, 2, 3, and 4. An Act of August 25 1916 (39 Stat. 535) and amendments thereto.

For information on this IPM project contact:

James Åkerson, Forest Ecologist, Shenandoah National Park,
3655 U.S. Highway 211-E, Luray, VA 22835
(540) 999-3496
james_akerson@nps.gov

Photo courtesy of copernicus.com

Air Quality and Ecological Effects Program

Two new staff members join Air Quality Program
By Holly Salazer, PHSO

Through the Natural Resource Challenge, the Northeast Region has been able to increase its expertise in natural resource management. New positions for air quality ecological effects and air quality policy and management have been added to the region this past year.

Tonnie Maniero joined the Northeast Region as the Regional Air Quality Ecological Effects Coordinator in April 2002. Tonnie has worked for the NPS Air Resources Division in Denver since 1990. During her last two years with the Air Resources Division, one of Tonnie's main responsibilities was to coordinate with the Vital Signs Monitoring Program. That coordination has continued in her new position with the region, as Tonnie works closely with park and Network staff to determine the need to monitor the effects of air pollution on park resources. In addition, Tonnie will provide guidance and assistance to park and regional staff in writing air quality related ecological effects funding proposals, developing research and monitoring programs, and interpreting and applying the results of NPS and non-NPS research to air quality issues. Tonnie's position is shared between the Northeast, Southeast and Midwest regions.

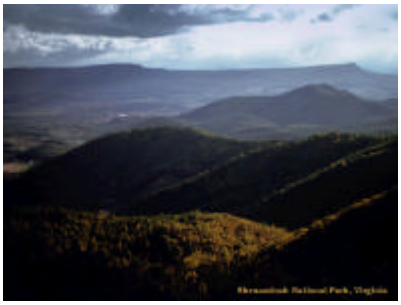


Photo courtesy of copernicus.com

The new Regional Air Resources Coordinator is Holly Salazer, located in the Philadelphia Support Office. Holly formerly worked as the National Park Service Air Resources Liaison in the Washington Office and has experience in air resource policy and planning. Holly came on board with the region in June of this year. Holly's main responsibilities are to provide assistance to parks in meeting their air resource management needs and responsibilities. She will be working closely with park and regional resource management staff, Federal, State and local air pollution officials, regional air quality planning organizations, private industries, non-governmental organizations, and other stakeholders. Holly brings significant knowledge and experience in national air resource issues to the Northeast and looks forward to helping parks in protecting and enhancing their valuable air resources.

Cooperative Ecosystem Studies Units

By Norm Farris, Natural Resources and Science, BOSO

The Cooperative Ecosystem Studies Unit (CESU)system is a nation-wide consortium of co-operative programs that apply a biogeographical focus to research, technical assistance and education provided to participating federal agencies. Each CESU is established by cooperative agreement among participating federal land management, environmental and research agencies in conjunction with partner university institutions. These units are named Cooperative Ecosystem Studies Units to signify their broad role as providers of research, technical assistance, and education to federal land management, environmental and research agencies, and their potential partners.

North Atlantic Coast Cooperative Ecosystem Studies Unit

History

The North Atlantic Coast Cooperative Ecosystem Studies Unit (NAC-CESU) was established in June of 1999. It was one of four inaugural CESUs' to be established. Its purviews are the coastal ecosystems from Maine to Virginia and will encompass all components of coastal watersheds and ecosystems therein. These include salt and fresh water wetlands, coastal ponds, estuaries, barrier islands and nearshore oceanic environments as well as terrestrial habitats and drainage basins that affect these coastal environments.

The NAC-CESU technical assistance directive includes training in natural and cultural resource management issues, participation in identification of research and resource management needs, and involvement in issues that may require immediate attention.

Finally, the NAC-CESU is committed to a mission of cooperative education during the implementation of its projects. It will seek to establish positions for cooperative education or partnerships and is committed to providing support for undergraduate and graduate students from the broadest diversity of backgrounds.

Current Research Issues

The NAC-CESU is focussed on research directions that seek to elucidate the stresses on coastal ecosystems in Department of the Interior and other federally managed lands from urbanization and increased recreational activities. CESU projects seek to understand ecological processes affected by any particular stressors. Then CESU researchers can help develop science-based and socially sensitive solutions, including the monitoring components to better gauge the effectiveness of the chosen management solution.

Issues addressed by NAC-CESU include shoreline erosion, watershed nutrient enrichment and eutrophication, sea level rise and climate change, management of exotic species, vector-borne diseases, as well as loss of habitat quality and biodiversity. Cultural resource management is also a major component if the NAC-CESU. The CESU is currently supporting numerous research projects with investigators from the participating federal agencies and partner institutions. These projects are designed to address specific park needs, and include:

Cooperative Ecosystem Studies Units

- Distribution of mosquito species associated with West Nile Encephalitis and survey potential breeding habitat in NPS units in the Northeast and National Capital Regions.
- Evaluating the success of salt marsh restoration through monitoring of trophic relationships
- Application of federal environmental monitoring and remote sensed data in support of the goals of the North Atlantic Coast Cooperative Ecosystems Studies Unit.
- Human disturbance and eelgrass dynamics in Assateague Bay.

Recent and Upcoming Events in the CESU

The CESU provided support for Dr. Roger LeBrun, a University of Rhode Island entomologist, and Dr. Howard Ginsberg, a USGS scientist, to survey mosquito populations and potential habitat at sixteen National Park Units in the northeast U.S. The goal of this project is to track the expansion of the West Nile virus in the northeast United States. This project was featured on the Discovery Channel.

In January of 2002, Dr. Charles Roman was selected as National Park Service Research Coordinator for the NAC-CESU. Dr. Roman is a coastal ecologist who brings a wealth of experience and expertise to the position. Until December of 2001, he was a research ecologist with the USGS-BRD before he rejoined the NPS. He specializes in the ecology of coastal ecosystems; in particular interactions between hydrology and freshwater wetlands, restoring degraded salt marsh and estuarine habitat, quantifying change in ecosystem structure and the effect of sea level rise on salt marshes. He received the 2000 NPS Directors Award for Natural Resource Research.

Photo courtesy of Copernicus.com

The CESU will host workshops on issues that are especially timely for resource management professionals. In FY03, a workshop is planned with the purpose of setting the stage for engaging the Northeast coastal National Parks in Marine Protected Area establishment. MPAs are a possible tool for the NPS to use to meet its mandate of preserving and protecting natural resources within park boundaries. A background paper on MPAs will be prepared with the purpose of summarizing the state of knowledge of MPAs, their effectiveness and implementation strategies. The background paper will be the foundation for a workshop, with participants from northeast coastal National Park units, interested state and federal agencies, and the scientific community.

NAC-CESU Partners

Federal Agencies

National Park Service
USGS-Biological Resources Division
U.S. Environmental Protection Agency

Cooperative Ecosystem Studies Units

Partner Institutions

University of Rhode Island (host institution)
University of Maryland – Eastern Shore
University of Massachusetts at Amherst
Rutgers, the State University of New Jersey

Contact Persons

Dr. Peter August
University of Rhode Island
Coastal Institute
South Ferry Road
Narragansett, RI 02882
pete@edc.uri.edu

Dr. Charles Roman
National Park Service
University of Rhode Island
South Ferry Road
Narragansett, RI 02882
charles_roman@nps.gov

Dr. Mary Foley
National Park Service
Boston Support Office
15 State Street
Boston, MA 02109
mary_foley@nps.gov

Cooperative Ecosystem Studies Units

Chesapeake Watershed Cooperative Ecosystem Studies Unit

The Chesapeake Watershed Cooperative Ecosystem Studies Unit (CW CESU) is composed of eight institutions and four federal agencies. These partners provide leadership in watershed science and stewardship with special emphasis on the watershed of the Chesapeake Bay.

The CW CESU is part of a national network of CESUs. The primary objective of the national network is to provide research, technical assistance, and education to federal agency managers and resource professionals. The CW CESU was established in August 2001 through a Cooperative Agreement among its partners. Since that time, federal agencies have awarded $ 800,000 in program funds to the research/university partners.

The goal of the CW CESU is to foster stewardship of the watershed through collaborative research, technical assistance, and education that support integrated ecosystem management. Emphasizing interdisciplinary and multi-scale approaches, the CW CESU will address the complex and interrelated biological, physical, cultural, and social resources and issues within this urbanizing landscape.

The Chesapeake Bay Watershed (CW) encompasses two large metropolitan areas, extensive suburban developments, major agricultural areas, and large areas of mostly forested land and estuarine habitats. Land-cover is a highly fragmented mosaic of farmland, forest, and smaller urban centers. The high density of the human population within the watershed results in a variety of environmental stresses and problems. Impacts on the landscape, natural and cultural resources include the following: pollution and eutrophication of surface waters, losses of farmland, forests and wetlands, increased exploitation of living and non-living resources, declines in habitat quality for native species, spread of exotic species, and losses of cultural resources. Superimposed on these issues are larger scale problems associated with population growth and development such as air pollution, natural hazards, and climate change.

Research directions

The environmental challenges facing federal land management and research agencies within the CW will be addressed through a comprehensive research, technical assistance and education program. Representatives from the partner institutions and agencies identified six major scientific themes that will be the focus of CESU activities over the next five years:

1) Watershed Processes as Influenced by Landscape Patterns and Changes
2) Natural and Cultural Resources and Heritage
3) Ecosystem Management of Urban and Urbanizing Landscapes
4) Public Land Stewardship
5) External Stresses
6) Tools for Enhancing Stewardship

Data and Information Exchange

In order to make informed decisions regarding the management of the Chesapeake Watershed, federal land managers and other decision-makers must

Cooperative Ecosystem Studies Units

have ready access to data and other relevant scientific information. As many different government and research organizations already assemble and communicate data, the CESU's activities must complement ongoing efforts.

The Internet will be the primary tool for the dissemination and exchange of relevant data from CESU projects. These resources will provide a diversity of potential users with ready access to information about the CESU and to a range of information resources.

Federal Agency Partners
U.S. Geological Survey – Biological Resources Division
Department of Defense
National Park Service
Bureau of Land Management

University Partners

University System of Maryland (host institution)
- Center for Environmental Science
- College Park
- Baltimore County
- Frostburg State University

George Mason University
Pennsylvania State University
University of the District of Columbia
University of Virginia

The CW CESU office is headquartered at the Appalachian Laboratory of the University of Maryland Center for Environmental Science.

Recent Events

A strategic plan was completed and approved in August of 2002.

The CW-CESU website was begin operation; the address is http://cesu.al.umces.edu/.

Although still under construction, the Strategic Plan, mission statement and a list of participating institutions can be found there

The CW-CESU recently hired Dr. William Lellis as the NPS Coordinator. He received his Ph.D. at Iowa State University and was recently on the staff of the USGS Northern Appalachian Research Laboratory at Wellsboro, PA. At the NARL, Dr. Lellis explored the restoration of declining fresh water species, especially mussels. He will begin his new position in November and will be located at the Appalachian Laboratory in Frostburg.

Fort Henry National Monument. Photo courtesy of copernicus.com

CW CESU Host Office Contact Information

Director
Dr. Louis Pitelka
(301) 689-7101
Pitelka@al.umces.edu

Coordinator
Nancy Mathews Castro
(301) 689-7152

Cooperative Ecosystem Studies Units

ncastro@al.umces.edu

National Park Service Coordinator
Dr. William Lellis
(301) 689-7108
wellis@al.umces.edu

Mailing Address:
University of Maryland
Center for Environmental Science
Appalachian Laboratory
301 Braddock Road
Frostburg, MD 21532
Fax: (301) 689-7200

James L. Sherald, PhD
Chief, Natural Resources & Science
National Park Service
National Capital Region,
Center for Urban Ecology
4598 MacArthur Blvd. NW
Washington, DC 20007-4227
james_sherald@nps.gov

Natural Resource Management in the NER: Meeting the Challenge

The Philadelphia Support Office is hosting a Natural Resource Managers Conference December 2 – 4, 2002 in Philadelphia. This conference will center on the Northeast Region Science Program. This meeting will address several related topics. These include: Funding Sources for Resource Projects, a Review of the WASO Natural Resource Divisions, The Natural Resource Challenge Program, and the NPS Chesapeake Bay Program Office. The conference will also feature updates on Fire Management Policies, Geographic Information Systems, Deer management and Integrated Pest Management Issues. For more information or to make reservations, please contact Tina LeCoff at the Philadelphia Support Office at tina_lecoff@nps.gov. A block of rooms under the National Park Service name has been booked at the Sheraton Society Hill Hotel, 1 Dock Street, Philadelphia, PA 19106. The Hotel's number is 1-800-325-3535 or 215-238-6000.

Learning Centers in the Region

By Norm Farris, Natural Resources and Science, BOSO

In 2001, the Natural Resource Challenge funded the first four of 32 Learning Centers to be established nationwide. Designed as a public/private partnership, Learning Centers will develop programs that combine science and education activities to preserve and protect nationally significant areas. Learning Centers will support research and education efforts engaging a wide range of collaborators and cooperative partners. Partners would include individual researchers, universities, educators and community groups. Each Center is given an initial allocation of $225,000 for staff. The Learning Center concept is designed to leverage its limited resources (small staff and adaptive reused buildings in or near Park units and other federally managed lands) into a broader program through sharing resources and expenses with collaborating partners.

The primary goals of Learning Centers are to develop a broader understanding of resource issues related to federal land management lands and the surrounding communities. Learning Centers will foster research and education partnerships with other agencies, institutions and non-governmental programs encouraging active participation by as wide an audience as possible. These programs allow parks to function as living laboratories and libraries to educate future scientists, leaders as well as an environmentally educated public.

Acadia Learning Center at Schoodic Point (Acadia National Park)

The Acadia Learning Center is one of eight new Centers to be funded in fiscal year 2002. The Learning Center will be located on a 97-acre Navy base on the Schoodic Peninsula Unit of Acadia National Park that will be transferred to Park ownership in June of 2002. The Center will function as a collaborative enclave that will foster interdisciplinary learning and investigations employing the Park as a living classroom. Planned programs include science teacher training programs, K-12 residential environmental education, adult classes, office, laboratory and research space for both Acadia National Park and Petit Manan National Wildlife Refuge and a visitors center.

Starting with a base of existing knowledge, experience and cooperative agreements the Park's history as a location for basic and applied research, the Learning Center will bring together teaching and research institutions, federal land management and science agencies, public schools and non-governmental programs in collaborative efforts. Possible partners include: U.S. Fish and Wildlife Service, U.S. Geological Survey, Gulf of Maine Ocean Observing System, University of Maine, College of the Atlantic, Audubon Expeditions, School Unions 96 and 98, The Jackson Laboratory, Mount Desert Island Biological Laboratory, Mount Desert Island Water Quality Coalition, Eastern Maine Development Corporation, and Friends of Acadia.

Contact person:

Dave Manski
Chief, Resource Management Division

Learning Centers in the Region

Acadia National Park
P.O. Box 177
Bar Harbor, ME 04609
manski_dave@nps.gov

Jamaica Bay Learning Center at Gateway National Recreation Area (JBLC)

The JBLC, was funded in FY2002. Its' two missions are to: 1) promote improved stewardship of the Jamaica Bay ecosystem by residents within and visitors to the ecosystem's watershed 2) increase cooperation between scientific efforts and management policy makers so as to develop research and education initiatives. These initiatives will be aimed at expanding a basic understanding of the natural and cultural heritage of Jamaica Bay.

The goals of the JBLC are to expand research, survey and education efforts on the Jamaica Bay flora and fauna and to establish a library to compile and summarize research findings. These findings would be disseminated to the public, resource managers and policy makers. Such information sharing will help foster appreciation, responsibility and accountability within the urban community for the Jamaica Bay ecosystem.

Recent events by the JBLC include the hiring of Kim Tripp for the position of JBLC's research coordinator in Feb 2002. Kim was a endangered species specialist with the U.S. Fish and Wildlife for eight years, her previous job was as the endangered species coordinator for the Maine Ecological Services Field Office. Kim has a B.S. in wildlife biology from Cornell University, and a M.S. in zoology from North Carolina State University. She has published in the journals Wilson Bulletin, and Wetland Ecology and Management. She was also a contributing author to the "Development of management objectives for waterfowl and shorebirds in the Mississippi Valley", Proceedings of the 3rd Partners in Flight Workshop, 1995.

Future efforts in FY2002 include establishing the Natural and Cultural Resources Library (in cooperation with the Library Science School of Rutgers University and develop a Website as a clearinghouse for research efforts and management activities.


Jamaica Bay salt marsh view. Photo: Kim Tripp

JBLC partners presently are:

Federal
U.S. Army Corp of Engineers, U.S. Environmental Protection Administration, U.S. Fish and Wildlife Service.

City and State
NYC Parks and Recreation Department, NYC Board of Education, NY State Departments of Environmental Conservation and Environmental Protection.

Non-Governmental Organizations

Learning Centers in the Region

NY Audubon Society, NY League of Conservation Voters, Friends of Gateway, Jamaica Bay Task Force, New Yorkers for Parks, Natural Resource Defense Council**,** Wild Metro, The Nature Conservancy, National Park Foundation

Universities
University of Rhode Island, Columbia University, Brooklyn College, Rutgers University, Dowling College, College of Staten Island

Contact person
Kim Tripp
JBLC Research Coordinator
Gateway National Recreation Area
Building 69, Floyd Bennett Field
Brooklyn, NY 11234
(718) 482-0122
kim_tripp@nps.gov

Waterfowl in flight at Jamaica Bay, New York City. Photo: Kim Tripp, GATE

The Atlantic Learning Center at the Cape Cod National Seashore

The Atlantic Learning Center (ALC) is one of the four inaugural Learning Centers to be funded in FY 2000. Its goals are to promote research, information exchange and educational opportunities for the general public, the NPS, state and federal agencies and the academic community. It is a part of the Highlands Center for the Arts and Environment, a cooperative partnership between Cape Cod National Seashore, its' collaborators and the local community. The Center was designed to explore interactions between Cape Cod's people, its' land and water using an interdisciplinary approach in the arts and sciences. The ALC will provide teaching and research laboratories, a science-based information (in conjunction with Cape Cod National Seashores' North Atlantic Coastal Laboratory) as well as classroom and dormitory space.

Recent Events and Milestones

The science-based component has partnered with research institutions to conduct a number of projects addressing resource impact issues for the National Seashore. These projects include:

- Distribution and ecology of brown-tailed moths in the Cape Cod National Seashore.
- Delineation of historic landscapes on the Outer Cape.
- Horseshoe crab population dynamics at the Cape Cod National Seashore (see photo).
- Genetic diversity of coyote populations.
- Remote sensing observation systems in the Gulf of Maine

Learning Centers in the Region

University of Rhode Island researchers tagging horseshoe crabs in Pleasant Bay, Cape Cod, Massachusetts.

Publications

The following publications have resulted from researchers conducting studies in conjunction with the Atlantic Learning Center.

Eberhardt, R. W., D. R. Foster, G. Motzkin, and B. Hall. 2002. Conservation of changing landscapes: vegetation and land-use history of Cape Cod National Seashore. Ecological Applications: In press.

Parshall, T., D. R. Foster, E. Faison, D. MacDonald, and B. Hansen. 2002. Long-term vegetation and fire dynamics of pitch pine-oak forests on Cape Cod, Massachusetts. Ecology: In press.

The educational component has established several programs in association with the National Seashores' Parks as Classroom coordinator. The Seashores' Inventory and Monitoring program has given lectures and lead field study programs to 2,400 members of the general public, school groups and educators. The ALC also participated in university-level courses in ecology, geomorphology and mammology. The University of Rhode Island is developing a field biology methods course to be used by the ALC. Project support for the imminent construction of the facilities has included the donation of $30,000 in laboratory equipment from the Intel Corporation and $25,000 from the Department of Energy's Federal Energy Management Program to incorporate sustainable energy design concepts into the facilities. Partner institutions currently working with the ALC include:

Federal

Department of Energy
National Aeronautics and Space Administration

Academic institutions

Harvard University
Middlebury College
Salem State College
University of Maine
University of Massachusetts
University of Rhode Island

Contact Persons

Nancy Finley
Chief, Resource Management
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667
508-349-3785
nancy_finley@nps.gov

Lauren McKean
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667
508-349-3785
lauren_mckean@nps.gov

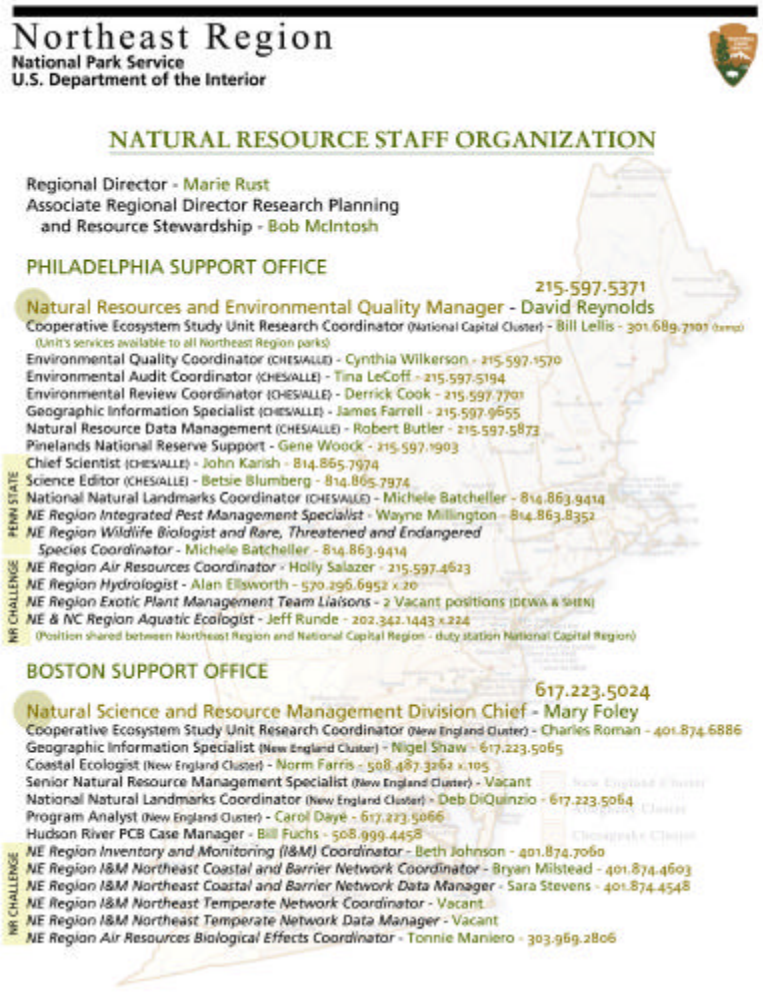
Learning Centers in the Region

Teachers participating in an ALC Teacher Development Program – collecting geomorphology data used to measure shoreline change. Photo: Nancy Finley CACO

National Learning Center Events

A meeting of Learning Center representatives was held in Estes Park, Colorado on June 4-5, 2002—the second gathering of its kind. Judy Visty and other Rocky Mountain National Park staff hosted it and the minutes of the meeting can be viewed at http://im.den.nps.gov/resources.cfm under "tools and reference documents". About 60 people attended. The Natural Resource Information Division's Information Services Branch will provide Washington Office support for learning centers, and is developing a web clearinghouse. Lynn Murdock, NRID staff in Washington (stationed with Interpretation and Education), will serve as the primary point of contact, but most of the branch will be involved with the centers in one fashion or another.

Learning Centers in the Region



Northeast Region
National Park Service
U.S. Department of the Interior

NATURAL RESOURCE STAFF ORGANIZATION

Regional Director - Marie Rust
Associate Regional Director Research Planning and Resource Stewardship - Bob McIntosh

PHILADELPHIA SUPPORT OFFICE

215-597-5371

Natural Resources and Environmental Quality Manager - David Reynolds
Cooperative Ecosystem Study Unit Research Coordinator (National Capital Cluster) - Bill Lellis - 301.689.7101 (temp)
(Unit's services available to all Northeast Region parks)
Environmental Quality Coordinator (CHES/ALLE) - Cynthia Wilkerson - 215.597.1570
Environmental Audit Coordinator (CHES/ALLE) - Tina LeCoff - 215.597.5194
Environmental Review Coordinator (CHES/ALLE) - Derrick Cook - 215.597.7701
Geographic Information Specialist (CHES/ALLE) - James Farrell - 215.597.9655
Natural Resource Data Management (CHES/ALLE) - Robert Butler - 215.597.5873
Pinelands National Reserve Support - Gene Woock - 215.597.1903
Chief Scientist (CHES/ALLE) - John Karish - 814.865.7974
Science Editor (CHES/ALLE) - Betsie Blumberg - 814.865.7974
National Natural Landmarks Coordinator (CHES/ALLE) - Michele Batcheller - 814.863.9414
NE Region Integrated Pest Management Specialist - Wayne Millington - 814.863.8352
NE Region Wildlife Biologist and Rare, Threatened and Endangered Species Coordinator - Michele Batcheller - 814.863.9414
NE Region Air Resources Coordinator - Holly Salazer - 215.597.4623
NE Region Hydrologist - Alan Ellsworth - 570.296.6952 x.20
NE Region Exotic Plant Management Team Liaisons - 2 Vacant positions (DEWA & SHEN)
NE & NC Region Aquatic Ecologist - Jeff Runde - 202.342.1443 x.224
(Position shared between Northeast Region and National Capital Region - duty station National Capital Region)

PENN STATE
NR CHALLENGE

BOSTON SUPPORT OFFICE

617.223.5024

Natural Science and Resource Management Division Chief - Mary Foley
Cooperative Ecosystem Study Unit Research Coordinator (New England Cluster) - Charles Roman - 401.874.6886
Geographic Information Specialist (New England Cluster) - Nigel Shaw - 617.223.5065
Coastal Ecologist (New England Cluster) - Norm Farris - 508.487.3262 x.105
Senior Natural Resource Management Specialist (New England Cluster) - Vacant
National Natural Landmarks Coordinator (New England Cluster) - Deb DiQuinzio - 617.223.5064
Program Analyst (New England Cluster) - Carol Daye - 617.223.5066
Hudson River PCB Case Manager - Bill Fuchs - 508.999.4458
NE Region Inventory and Monitoring (I&M) Coordinator - Beth Johnson - 401.874.7060
NE Region I&M Northeast Coastal and Barrier Network Coordinator - Bryan Milstead - 401.874.4603
NE Region I&M Northeast Coastal and Barrier Network Data Manager - Sara Stevens - 401.874.4548
NE Region I&M Northeast Temperate Network Coordinator - Vacant
NE Region I&M Northeast Temperate Network Data Manager - Vacant
NE Region Air Resources Biological Effects Coordinator - Tonnie Maniero - 303.969.2806

NR CHALLENGE

Awards conferred to the Northeast Region for 2001

A number of awards for NPS Northeast Region staff and cooperative researchers will be announced at the Natural Resource Managers Conference. These include:

NATURAL RESOURCES SUPERINTENDENT OF THE YEAR: Bill Laitner, Delaware Water Gap NRA. Bill received recognition for his commitment to environmental leadership and watershed management. He used a "Compliance Committee" to evaluate adverse effects of any activities to Park resources. He directed the creation of a Watershed Management Plan with state and local partners.

NATURAL RESOURCES MAINTENANCE EMPLOYEE OF THE YEAR: **Greg McGuire, Fort McHenry NHP**. Greg received this award for creating a partnership with the National Aquarium at Baltimore to improve the Park's Environment. This partnership held quarterly cleanups with volunteers and partners along the park's historic seawall and at the adjacent Fort McHenry tidal wetlands.

NATURAL RESOURCES MANAGER OF THE YEAR (LARGE PARK): James Akerson, Shenandoah National Park. Jim formed the Virginia Invasive Vegetation Management Team (VIVMT) to coordinate invasive vegetation control in eight Virginia Park Units (see page 15).

NATURAL RESOURCE SUBJECT MATTER EXPERT AWARD – NOMINATION: Elizabeth Johnson, **Northeast Region Inventory and Monitoring Coordinator, Senior Natural Resource Specialist, University of Rhode Island.** Beth received her nomination for her dedication to scientific excellence and her incredible high level of energy moving the NPS I&M program forward in a coordinated, productive and scientifically sound manner.

NATURAL RESOURCES MANAGER OF THE YEAR (SMALL PARK): Brian B. Lambert, Valley Forge NHP Brian Lambert was key to the completion of two riparian restoration projects along Valley Creek and has a third currently underway. Through his efforts, the park has also entered a partnership agreement with the PennDOT to conduct a 4th restoration project.

NATURAL RESOURCES RESEARCHER OF THE YEAR: Dr. Jay F. Kirkpatrick, ZooMontana, Billings, Montana. Jay has been involved in scientific research related to the fertility control of wildlife on behalf of the Northeast Region's parks for 17 years. His goal was to develop a safe, humane, and effective method for resolving human-wildlife conflicts associated with overabundant wildlife species. His techniques have since become important tools for the study of reproduction in free-roaming wildlife around the world.

Northeast Region Natural Resource Challenge Annual Report
Fall 2002.

Editor:
Norm Farris
Boston Support Office
15 State Street
Boston, MA 02109

Contributors:
James Åkerson
Nancy Castro
James Farrell
Nancy Finley
Beth Johnson
Dave Manski
Wayne Millington
Bryan Milstead
Louis Pitelka
Charles Roman
Holly Salazer
James Sherald
Sara Stevens
Kim Tripp

Comments? Write to:
Norm Farris
Boston Support Office
15 State Street
Boston, MA 02109
(617) 223-5170
charles_farris@nps.gov